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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/549,133	04/13/2000	Steven M. Swam	2316.1175US01	7533
23552	7590	04/26/2006	EXAMINER	
MERCHANT & GOULD PC			SINGH, RAMNANDAN P	
P.O. BOX 2903			ART UNIT	
MINNEAPOLIS, MN 55402-0903			PAPER NUMBER	

2614

DATE MAILED: 04/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/549,133

Applicant(s)

SWAM ET AL.

Examiner

Ramnandan Singh

Art Unit

2614

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-28, 30-40, 42-47 and 49-69 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 37-40, 42-47, 49-52, 57, 58 and 69 is/are allowed.
- 6) ☒ Claim(s) 1, 5, 9, 13, 15, 19, 21-23, 28, 30-36, 53, 59 and 64-68 is/are rejected.
- 7) ☒ Claim(s) 2-4, 6-8, 10-12, 14, 16-18, 20, 24-27, 54-56 and 60-63 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Arguments***

1. With the finding of new prior art, new grounds of rejection are made. Further, applicant's arguments filed on Jan. 09, 2006 have been considered but are moot in view of the new ground(s) of rejection.

### ***Drawings***

2. New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because Figures 3A, 3B, 5C, 5D, 5E, 6-13 do not have legends describing the drawings therein. Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 103***

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 1, 5, 9, 13, 15, 19, 21-23, 28, 30, 31-32, 66, 35-36, 68, 33-34, 67, 53, 59, 64 and 65 are rejected under 35 U.S.C. 103(a) as being unpatentable over Frazier et al [US 6,430,288 B1] in view of Dithie et al [US 4,821,150].

Regarding claim 1, Frazier et al teach a telecommunication component (i.e. **splitter assembly 10**), as shown in Fig. 1, comprising:

a circuit board (i.e. **a splitter circuit on a card**) [col. 3, lines 32-45; col. 6, lines 17-23];

a first multi-pair cable connector for inputting twisted pair, mixed data/voice signals to the circuit board (i.e. **card**);

a second multi-pair cable connector for outputting twisted-pair, voice signals from the circuit board (i.e. **card**);

a third multi-pair cable connector for outputting twisted pair, data signals or mixed data/voice signals from the circuit board [col. 6, lines 29-56; col. 2, lines 44-58; col. 3, lines 46-54]. Further, first tracings, second tracings and third tracings are not shown which are used to maintain electrical separation between two connectors. In addition, since there is only one edge connector with the interface circuit connected to the Splitter, the contacts are normally closed.

Frazier et al do not teach one or more card edge connectors connected to the circuit board, the one or more card connector.

Duthie et al teach a card edge connector (52) connected to a circuit board (known as a line card) (26), having a plurality of conductive members (53), in a conventional fashion, for making proper connection when inserted into a mating receptacle connector [Fig. 2; col. 4, lines 11-26; col.3, lines 23-30; col. 5, lines 17-35;

col. 2, lines 7-35; col. 5, line 67 to col. 7, line 5], wherein the card edge connector includes a group of normally closed contacts (i.e. male connector); and a group of normally open contacts (i.e. female connector); all of the normally open contacts being grouped separately from the normally closed contacts which is an inherent feature of card edge connectors. It is nevertheless a teaching to one of ordinary skill in the art to apply the same to other applications.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the teachings of Duthie et al et al with Frazer et al in order to enable the splitter of Frazier et al to receive signals from a transmission system in telephonic communications [Duthie et al; col. 1, lines 5-20].

Claim 15 is essentially similar to claim 1 except for a circuit board (i.e. **a splitter circuit on a card**) aligned generally at a perpendicular orientation relative to the reference back plane. Although Frazier et al teach a splitter assembly (10) having a housing 12 and circuit board providing no specific orientation [Fig. 1; col. 2, lines 44-58], it would have been obvious to one of ordinary skill at the time the invention was made to use any orientation for the circuit board relative to the reference back plane to accommodate the splitters subject to circuit, system and design constraints.

Claim 28 is essentially similar to claim 1 and is rejected for the reasons stated above.

Claims 31, 33, 35, 53, 59, 64, 65 are essentially similar to claim 15 and are rejected for the reasons stated above.

Regarding claim 30, Frazier et al also disclose the splitter assembly that includes a plurality of POTS splitter card that includes at least 24 POTS splitter [Abstract; col. 6, lines 29-61].

Regarding claim 5, Duthie et al teach a first card edge connector and a separate second card edge connector, the first card edge connector including the normally closed contacts (i.e. male connector) and the second card edge connector including the normally open contacts (i.e. female connector) [col. 5, lines 18-35; col. 5, line 67 to col. 6, line 34].

Regarding claims 32, 66, 36, 68, 34 and 67, the limitations are shown above.

Regarding claim 9, although Frazier et al teach a splitter assembly (10) having a housing 12 and circuit board providing no specific orientation [Fig. 1; col. 2, lines 44-58], it would have been obvious to one of ordinary skill at the time the invention was made to use any orientation for the circuit board relative to the reference back plane to accommodate the splitters subject to circuit, system and design constraints.

Regarding claims 13, 19 and 21-23, the limitations are shown above.

***Allowable Subject Matter***

6. Claims 37, 38-40, 42-43, 44-47, 49-50, 51, 52, 57, 58 and 69 are allowable.

7. Claims 2-4, 6-8, 10-12, 14, 16-18, 20, 24-26, 27, 54-56, 60-62 and 63 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. Examiner's Statement of Reasons for Allowance:

This invention relates to a splitter architecture for a telecommunications system. Claim 69 identifies the uniquely distinct feature of the splitter architecture comprising: a plurality of splitter cards mounted within the chassis, each of the splitter cards including a plurality of POTS splitters, each of the splitter cards being perpendicular to the back plane; and a plurality of card edge connectors arranged to electrically interconnect each of the backplane circuit boards with one of the plurality of splitter cards; wherein each of the card edge connectors includes a first card edge connector piece and a second card edge connector piece, the first card edge connector piece is mounted on a second opposite edge of the backplane circuit board, and the second card edge connector

piece is mounted on the splitter card. As such, claim 69 requires combination of an interface card with a card edge connector for engaging a card edge connector of a splitter card. While the closest prior art, Frazier et al [US 6,430,288 B1], Guenther et al [US 6,438,226 B1], and Staber et al [US 6,137,866] each teach **splitter architectures**, Frazier et al using plurality of POTS splitter cards, Guenther et al using at least one splitter circuit, and Staber et al using an xDSL splitter circuit, none of them show or suggest combination of an interface card with a card edge connector for engaging a card edge connector of a splitter card. As such, the prior art, either singularly or in combination, fail to anticipate or render the above underlined limitation obvious. Hence, claim 69 is allowable.

Claims 37, 44, 51, 52, 57 and 58 are essentially similar to claim 69 and hence they are also allowable.

Claims 38-40 and 42-43 being dependent from claim 37, claims 45-47 and 49-50 being dependent from claim 44 are also allowable.

Dependent claims 2, 6, 10, 14, 16, 20, 24, 27, 54, 60 and 63 are objected to because of the similar reasons as stated above.

Claims 3-4 being dependent from claim 2, claims 7-8 being dependent from claim 6, claims 11-12 being dependent from claim 10, claims 17-18 being dependent from



Art Unit: 2614

claim 16, claims 25-26 being dependent from claim 24, claims 55-56 being dependent from claim 54, and 61-62 being dependent from claim 60 are also objected to.

### ***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Malmborg et al [US 4,476,357] teach an integral switch means on a circuit board (11) having a plurality of parallel conductors and circuit board edge connectors (22, 26) [Figs. 2-6; col. 4, lines 1-28; col. 5, lines 18-44; col. 6, lines 16-50].

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ramnandan Singh whose telephone number is (571) 272-7529. The examiner can normally be reached on M-TH (8:00-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fan Tsang can be reached on (571) 272-7547. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ramnandan Singh  
Examiner  
Art Unit 2614

A handwritten signature in black ink, appearing to be 'RS', with a long horizontal line extending to the right.